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BERGGREN
JYVÄSKYLÄ

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Patent- och registreringsverket
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REPLY TO WRITTEN OPINION
INTERNATIONAL PATENT APPLICATION PCT/FI2004/050176
APPLICANT: NOKIA CORPORATION
DUE DATE: 15 October 2005

On account of the Written Opinion issued on 16 March 2005 we submit the following:

Three documents have been cited in the International Search Report D1: US 4 796 084 A, D2: US 2001033487 A1 and D3: JP 2001196638 A. In the first two of these (D1, D2) the semiconductor has been protected against electrostatic discharges with a grounded planar conducting component. In the third (D3) the semiconductor has been protected against electrostatic discharges with a grounded conducting loop component.

Methods presented in the references D1 and D2 differ from the method and arrangement according to the present invention in that according to them a whole device, an integrated chip or a circuit board is protected. For example according to the D1 a protecting film is formed on the integrated device, and according to D2 a conducting layer is vacuum metallized on the circuit board. According to the present invention in an individual semiconductor component, as a fixed part thereof, is an integrated conducting part, which has an output arranged for the purpose of grounding. This kind of integrated conducting part integrated in a semiconductor component has not been presented in the references D1 and D2, therefore the invention is novel compared to references D1 and D2.

As a reference that presents the closest prior art is considered the reference D3, as in that reference is discussed the protecting of an

individual LED-component. According to the reference a part protecting the semiconductor component is formed around, enclosed or adjacent ("on periphery of LED") to the component to be protected. This construction is evident and the only one in the reference on the grounds of explicit text and also pictures.

According to the present invention the conducting protecting part is fixedly integrated to the semiconductor component, in other words it is located in the semiconductor component. This is explicitly presented in the independent claim 1: "A semiconductor component (...) characterized in that the component comprises an electroconductive element...", and in the independent claim 8: "A method for shielding a semiconductor component (...) against electrostatic pulses, characterized in that in the semiconductor component (...), there is integrated an electroconductive element...", and in the independent claim 15"...characterized in that the device comprises a semiconductor component (...), in which there is integrated an electroconductive element...". So the conducting protecting part has not been located around, enclosed or adjacent, as is the case in the reference D3, but according the invention the conducting part is integrated in the semiconductor component, as a fixed part thereof. This kind of conducting part integrated in the semiconductor component has not been presented in the reference D3, therefore the present invention differs also from the invention of the reference D3. Consequently the invention is novel compared to the reference D3.

On the grounds of reference D3 the person skilled in the art would not arrive at a solution according to the invention, because the D3 does not present a single solution, a problem or a clue, that would help the person skilled in the art to search for the solution according to the invention. On the contrary, D3 presents a different kind of solution for protecting a certain kind of semiconductor component, in which solution the person skilled in the art would arrive on the grounds of the reference. Combining the references D1 and/or D2 with the reference D3 does not bring anything to the entirety, that would lead the person skilled in the art to the solution according to the invention. Therefore the invention is not an evident solution for the person skilled in the art, but is novel compared to what has been presented in the references D1, D2 and D3.

BERGGREN OY AB
For Jussi Vaittinen

Arto Stenroos
Patent Agent